REMARKS

Applicant respectfully requests that the foregoing amendments be made prior to examination of the present application, and respectfully requests reconsideration of the present application in view of the foregoing amendments and the reasons that follow. Claim 1 has been amended to incorporate the recitation of claim 5, which has been canceled. The multiple dependency of claim 3 has been eliminated, which makes claim 4 proper multiply dependent claim. New claims 6-8 have been added. Since this amendment adds, changes and/or deletes claims in this application, a detailed listing of all claims that are, or were, in the application, irrespective of whether the claim(s) remain under examination in the application, is presented. There is an appropriate defined status identifier for each claim.

Claims 1-3 are rejected under Section 103(a) based on JP2001—011340 (hereinafter referred to as "the '340 reference") in view of Hawley's Condensed Chemical Dictionary. Applicants are forwarding with this response a machine translation of the '340 reference, which discloses that the document reference relates to a pearlescent pigment consisting of a base material of which a composition, a thickness, a particle size, and an aspect ratio are within certain ranges, and a cosmetic containing the pearlescent pigment. Furthermore, the '340 reference relates to the pearlescent pigment consisting of glass flakes coated with a metal oxide.

As for the pearlescent pigment, the content of silica (SiO_2) in the base material is in a range of 45 to 75wt% in terms of weight. Glass flakes produced by a melting method are mentioned as the base material in paragraph 0011 of the translation. Moreover, glass flakes having a mean particle diameter of 1300 um and aspect ratios of 10-500 are produced by carrying out grinding classification of a glass film having a mean thickness of 0.1-2.5 μm (see paragraph 0012).

The pearlescent pigment is obtained by coating the glass flakes with a metal oxide, such as titania (TiO_2), zirconia, or an iron oxide. Titania is deposited from a titanyl sulfate solution or a titanium tetrachloride solution in which the glass flakes are suspended (see paragraph 0018). When the titania is deposited from the abovementioned solution, a noble metal is attached to the glass flakes as a microcatalyst. The noble metal may be gold, silver, or a platinum group metal (Ru, Rh, Pd, Os, Ir, Pt). This is described in paragraph 0021.

While the '340 reference teaches a pearlescent pigment that consists of glass flakes having a mean thickness of 0.1-2.5 μm and a mean particle diameter of 1-300 μm, and that a noble metal

and a metal oxide are attached on the glass flakes, the document is silent as to the amount of metal oxide that is attached on the glass flakes. Thus, the '340 reference fails to teach or suggest an essential feature of the present invention, *i.e.*, that the powder has "the metal oxide film attached thereon in an amount in a range of 0.1 to 30 wt% in terms of weight before formation of the metal oxide film" as recited in claim 1 as amended. This provides the effect of preventing the leaching out of metal ions, the cracking and peeling off of the metal oxide film, and the rise of costs due to increase in the amount of raw materials used (see page 7, lines 5 to 12 of the present application). There is no suggestion in the '340 document of using an amount of metal oxide as recited in claim 1. Hawley's Dictionary is relied on as teaching that gold and platinum are noble metals, and does not overcome the failings of the '340 reference as just discussed. Claim 1 is therefore clearly distinguished over the teaching of the '340 reference in view of Hawley's Dictionary.

Applicant believes that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested. The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

If there are any problems with this response, Applicant's attorney would appreciate a telephone call. In view of the foregoing, it is believed none of the references, taken singly or in combination, disclose the claimed invention. Accordingly, this application is believed to be in condition for allowance, the notice of which is respectfully requested.

Respectfully submitted,

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DECEMBER 15, 2005
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MACHINE TRANSLATION OF Japanese Laid-Open Patent Publication (kokai) No. 2001-011340

CLAIMS

[Claim(s)]
[Claim 1] The pearly luster pigment 1-300 micrometers and whose aspect ratio a base material contains a silica ($iO2) 45 to 75% of the weight, and 0.1-2.5 micrometers and mean particle diameter are 10-500 for average thickness.
[Claim 2] The pearly luster pigment according to claim 1 with which noble metals and a titania adhered to the front face of the above-mentioned base material.
[Claim 3] The charge of makeup which blended the pearly luster pigment according to claim 1 or 2.

TECHNICAL FIELD

[Field of the Invention] This invention relates to the charge of makeup which blended the pigment which has the pearly luster which has a presentation, the thickness, the particle size, and the aspect ratio of a base material in the fixed range, and its pigment. Furthermore, said pearly luster pigment is related with what is the glass flake equipped with the coat of a metallic oxide.

PRIOR ART

[Description of the Prior Art] As photoluminescent thin film integrated circuit fine particles which show pearly luster, the mica (mica) of nature or composition is used as a base material, and the so-called pearl mica which coated the front face with titanium oxide, ferrous oxide, etc. is known from the former. However, since a mica has cleavability, a level difference tends

to be made by it on the front face, and its surface smooth nature is not enough for it in many cases. Therefore, it is hard to say that the pearly luster pigment which used the mica as the base material discovers good brightness. Moreover, since many impurities are contained in a natural mica, the pearly luster pigment which makes this a base material causes dullness, when blended with the charge of makeup.

[0003] As a pearly luster pigment, the average configuration ratio (average thickness / average grain size) 1 / 1, and metallic-oxide coating flake-like fine particles with a grain size of 25-500 micrometers are indicated by JP,9-176515,A. [9-1] Since that thickness is set to 2.78 micrometers or more on count, these flake-like fine particles give admiration coarsely on the skin, and the mileage or a feeling of a fit on the skin is bad because of a configuration with it, and when used for the charge ingredient of makeup, since number of sheets decreases compared with a flake with this still thinner weight, they have problems, like there is little brightness by reflection. [near / an average configuration ratio is large and / a cube]

[0004] Moreover, the flake-like silica glass manufactured from the metal alkoxide is used as a base material, and the pearly luster pigment which coated the titania or the zirconia is indicated by JP,6-116507,A. Since the metal alkoxide is very expensive, this flake-like silica glass has a problem on cost. Moreover, since [that silica content is high] the degree of hardness is high as compared with usual glass, when it is used for the charge ingredient of makeup, a possibility of silica glass that it may be crushed in case it scours with an ingredient compounding operation, and it may become impossible to maintain the grain size is high. Although there is an advantage as for which homogeneity becomes is easy to be distributed in the charge of makeup so that grain size becomes small, there are problems -- it is hard coming to be discovered of the brightness as a pearly luster pigment by one side.

[0005] Furthermore, the ultraviolet-rays masking pigment which

comes to coat a glass flake particle titanium oxide is indicated by JP,62-187770,A. However, this ultraviolet-rays masking pigment coats the titanium oxide of the amount which a feeling of pearly luster does not discover as a matter of fact.

TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention] Although blending a pearly luster pigment with cosmetics as mentioned above is performed widely and it is required from the former, the pearly luster pigment which uses the mica of nature or composition as a base material has the field which is hard to be referred to as discovering brightness good for the inadequate surface smooth nature. Moreover, in the case where a natural mica is used as a base material, since the impurity is contained, when it blends with the charge of makeup, it becomes the cause of dullness. Furthermore, in the case where flake-like silica glass is used as a base material, there is a problem which a cost side and grain size cannot maintain.

[0007] This invention is made paying attention to the problem which exists in such a conventional technique. When it blends with the charge of makeup, there is no dullness, and the place made into the purpose discovers photoluminescent [very good], does not have the feeling of a rough deposit on the skin, and is to offer the cheap pearly luster pigment which is excellent in mileage and a feeling of a fit. Furthermore, mileage is to offer the charge of makeup which was good, was excellent in a feeling of a fit, and was excellent in the brightness which does not produce a feeling of a rough deposit.

MEANS

[Means for Solving the Problem] In order to attain the above-mentioned purpose, a base material contains a silica (SiO2) 45 to 75% of the weight, and the pearly luster pigments of invention according to claim 1 are the average thickness of

0.1-2.5 micrometers, the mean particle diameter of 1-300 micrometers, and aspect ratios 10-500. In addition, said aspect ratio means the value (mean particle diameter / average thickness) which **(ed) mean particle diameter by average thickness.

[0009] In invention according to claim 1, as for the pearly luster pigment of invention according to claim 2, noble metals and a titania adhere on the surface of a base material.

[0010] The charge of makeup of invention according to claim 3 blends a pearly luster pigment according to claim 1 or 2.

[0011]

[Embodiment of the Invention] Hereafter, the operation gestalt of this invention is explained to a detail. As for the pearly luster pigment of this invention, a base material contains a silica (SiO2) 45 to 75% of the weight. As this base material, the glass flake manufactured by the melting method is mentioned. A glass flake can be manufactured by the approach of a publication to a well-known technique, for example, JP,41-17148,B, and JP,45-3541,B. That is, the fused glass is extruded from a circle type slit, and air etc. is poured into the interior of the glass, and it swells in a hollow-like cylinder, considers as a thin uniform glass film, and is manufactured by the approach of grinding it. Since this glass flake fuses and manufactures a cheap raw material, it can hold down cost low. Moreover, in order to carry out cooling solidification of the melting glass with the free surface, the front face is very smooth. Furthermore, it is amorphous, and since it does not have cleavability, a level difference does not arise on the front face. Moreover, since it has some flexibility compared with the silica glass which a silica contains 80% of the weight or more, even if blended with the charge of makeup, it is hard to be crushed, and the grain size at the time of combination can be maintained. Although what kind of presentation is sufficient as glass if melting shaping can be carried out, the soda lime glass currently generally used, C glass, E glass, etc. are illustrated. These glass contains

a silica in the above-mentioned range.

[0012] Moreover, the glass flake of the mean particle diameter of 1-300 micrometers and aspect ratios 10-500 is manufactured by carrying out grinding classification of the glass film with an average thickness of 0.1-2.5 micrometers. A glass flake is not made on a manufacturing technology more thinly than 0.1 micrometers, on the other hand, makes the charge of makeup with which it was blended when thicker than 2.5 micrometers produce a feeling of a rough deposit, and reduces brightness. When an aspect ratio is smaller than 10, the mileage and the feeling of a fit in the skin of the blended charge of makeup are worsened, on the other hand, when larger than 500, the paste to the skin of the charge of makeup is worsened, and admiration is strengthened too much glaringly. Brightness sufficient when the mean particle diameter is less than 1 micrometer for the blended charge of makeup cannot be given, but on the other hand, when larger than 300 micrometers, in the blended charge of makeup, a particle will be conspicuous too much, and a feeling of a result will be made unnatural.

[0013] When the configuration of a base material is in the above-mentioned range, the property of a glass flake changes with content of the silica of the base material. If the content of a silica becomes higher than 75 % of the weight, production by the melting method will become difficult and production by the sol gel process will become main in practice. The content of a silica is high, and although the glass manufactured with a sol gel process is called "silica glass" below, since a degree of hardness is high and weak like ****, the flake of the silica glass which has a configuration in the above-mentioned range will be easily crushed, if the external force more than fixed is added. For example, if a supersonic wave is irradiated at the flake of silica glass, it will be checked that the mean particle diameter becomes small. If a laser diffraction particle-size-distribution measuring device (Seishin Enterprise make Pro7000S) with ultrasonic irradiation equipment is made to output for 1 minute by 65W and a supersonic

wave is specifically irradiated at the flake of silica glass, the mean particle diameter will change like following "table 1."

[0014]

[Table 1]

[0015] Moreover, it is checked that the mean particle diameter of the flake of silica glass becomes small as the irradiation time of a supersonic wave increases. If an ultrasonic cleaner (VS[by the VERUVO Courier quotient firm]-70R) is made to output by 60W and a supersonic wave is specifically irradiated at the flake of silica glass, the mean particle diameter will change like following "table 2" with time.

[0016]

[Table 2]

[0017] As for the flake of silica glass, ""Table 1 and 2"" shows that crushing by the supersonic wave tends to take place, so that particle size is large. Moreover, with time, it turns out that crushing tends to take place in early stages of ultrasonic irradiation. Thus, although the flake of silica glass will be

crushed by the impact of a supersonic wave, such a phenomenon is not checked in a glass flake. This is considered to be because for a glass flake to have some flexibility as highly [a degree of hardness] as the flake of silica glass. Therefore, when it is blended with other ingredients as an ingredient of the charge of makeup and scours, rather than the flake of silica glass, the pearly luster pigment which uses a glass flake as a base material can maintain the original particle size, and, as a result, can discover brightness more effectively in the charge of makeup. In addition, since reinforcement required for a base material and moderate flexibility are combined, as for the content of the silica of a glass flake, it is desirable that they are 50 - 70 % of the weight and further 55 - 65 % of the weight.

[0018] This pearly luster pigment shows the gloss which resembled the exterior pearl like that name, and this is obtained by preparing the coat which becomes a glass flake from metallic oxides, such as a titania (TiO2), a zirconia, or an iron oxide. The shaping approach of this coat is indicated by JP,43-25644,B and JP,47-34529,A that what is necessary is just to use a well-known technique. It is the approach of making a sulfuric-acid titanyl solution or a titanium-tetrachloride solution suspending a glass flake, specifically depositing a titania by carrying out the temperature up of this solution, and preparing a coat on a glass flake. However, as long as it is not the thing to limit to this approach but a method of preparing a coat thinly on a glass flake, what kind of approach may be used.

[0019] The color tone of the arbitration by interference can be made to discover by controlling the thickness of the coat on a glass flake. The thickness of this coat has desirable 20-250nm, and since it is hard to discover brightness in less than 20nm, and many raw materials are needed on the other hand if thicker than 250nm, it is not desirable in cost.

[0020] When using a titania for this coat, a glass flake is heat-treated at 800-1,200 degrees C after coat shaping in many

cases. There is three crystal system, an anatase, a blue kite mold, and a rutile mold, in a titania, and this is performed in order to transfer an anatase to a rutile mold. When preparing a titania coat by the deposit from a solution as mentioned above, an anatase deposits first. Since an anatase is an unstable mold chemically compared with a rutile mold, when endurance and weatherability are required of a glass flake, it points to a rutile mold from an anatase. Furthermore, the titania coat of a rutile mold discovers higher brightness, i.e., skillful sense of color, from forming the film more precise than an anatase. Therefore, as a coat of a glass flake, what consists of a titania of a rutile mold is desirable, and it points to it.

[0021] When the heat-treatment temperature for the above-mentioned crystal system transition is 800 degrees C or less, the crystal system of a titania is still an anatase, but if it is made higher than 800 degrees C on the other hand, transferring to a rutile mold is known. However, when it heats at 800 degrees C or more, a glass flake may deform. In order to prevent this deformation, this invention person found out wholeheartedly the approach of transferring even heat-treatment of 800 degrees C or less to a rutile mold after research. In case it deposits a titania from the above-mentioned solution, it is the approach of making noble metals adhering to a glass flake as a minute amount catalyst. Noble metals point out gold, silver, and a platinum group (Ru, Rh, Pd, Os, Ir, Pt) here. The approach of especially the method of making noble metals adhere to a glass flake not being limited, and supplying a glass flake in the solution of chloroplatinic acid, for example, leaving it for a while is mentioned. In this approach, it checked that the crystal system transition to a rutile mold took place by heat-treatment of 600 degrees C or less.

[0022] Although the thickness of the coat which makes a certain color tone discover changes a little with refractive indexes of the coat on a glass flake, generally the thickness of a coat and the relation of coloring (reflected light) are as in the following "table 3."

[0023]
[Table 3]

[0024] By blending, specific glass flake, i.e., pearly luster pigment, of a configuration equipped with the coat of the above-mentioned metallic oxide, coloring which it is clear and became clear is shown, there is no feeling of a rough deposit on the skin, and the charge of makeup which is further excellent in the mileage and a feeling of a fit on the skin is obtained.
[0025] The rate of combination of the pearly luster pigment in this charge of makeup has 1 - 100 desirable % of the weight. When the rate of combination is less than 1 % of the weight, the brightness of a pearly luster pigment is not fully demonstrated. On the other hand, on the skin, even if it is 100 % of the weight, since **** etc. exists, it combines with these and may function as a charge of makeup.
[0026] Charges of makeup of the broad range, such as a charge of FESHARU makeup, a charge of makeup makeup, and a charge of hair makeup, are included in this charge of makeup. Also in these, this pearly luster pigment is especially used suitably in charges of makeup makeup, such as foundation, face powder, eye shadow, a brusher, makeup base, nail enamel, an eyeliner, mascara, a lip stick, and fancy powder.
[0027] According to the purpose of the charge of makeup, as for this pearly luster pigment, hydrophobing processing may be performed suitably. As the approach of hydrophobing processing, in the first place Methil hydrogen polysiloxane, An art with

silicone compounds, such as hyperviscous silicone oil and silicone resin, The art according to surfactants, such as an anion activator and a cation activator, to the second, The third nylon, polymethylmethacrylate, polyethylene, Teflon, The art by a perfluoro radical content compound, lecithin, a collagen, metallic soap, the oleophilic wax, polyhydric-alcohol partial ester, or perfect ester and the art which compounded [fifth] these are mentioned the art by high molecular compounds, such as polyamino acid, and the fourth. However, if it is an approach applicable to hydrophobing processing of powder generally, it will not be limited to the above-mentioned approach.

[0028] Other ingredients usually used for the charge of makeup can be suitably blended with this charge of makeup if needed. For example, talc, a kaolin, a sericite, a muscovite, phlogopite, lepidolite, A biotite, a lithia mica, a vermiculite, a magnesium carbonate, a calcium carbonate, ** SOU soil, a magnesium silicate, a calcium silicate, an aluminum silicate, Silicic-acid barium, a barium sulfate, silicic-acid strontium, a tungstic-acid metal salt, Inorganic powder, such as a silica, hydroxyapatite, a zeolite, boron nitride, and ceramic powder, Nylon powder, polyethylene powder, polystyrene powder, Benzoguanamine powder, polytetrafluoroethylene powder, JISUCHIREN benzene polymer powder, Organic powder, such as epoxy powder, acrylic powder, and microcrystalline cellulose, Inorganic red system pigments, such as inorganic white pigments, such as titanium oxide and a zinc oxide, ferrous oxide (red ocher), and titanic-acid iron, Inorganic yellow system pigments, such as inorganic brown system pigments, such as gamma ferric oxide, yellow oxide of iron, and ocher, Inorganic black system pigments, such as black oxide of iron and carbon black, mango violet, Inorganic purple system pigments, such as cobalt violet, chrome oxide, chromium hydroxide, Inorganic blue system pigments, such as inorganic green system pigments, such as titanic-acid cobalt, ultramarine blue, and Berlin blue, A titanium oxide coat mica, titanium oxide coat bismuth oxychloride, bismuth oxychloride, Pearl pigments, such as

titanium oxide coat talc, a scales foil, and a coloring titanium oxide coat mica, Metal powder pigments, such as aluminum powder and kappa powder, red No. 201, Red No. 202, red No. 204, red No. 205, red No. 220, red No. 226, Red No. 228, red No. 405, orange No. 203, orange No. 204, yellow No. 205, Organic pigments, such as yellow No. 401 and blue No. 404, red No. 3, red No. 104, Red No. 106, red No. 227, red No. 230, red No. 401, red No. 505, Orange No. 205, yellow No. 4, yellow No. 5, yellow No. 202, yellow No. 203, Organic pigments, such as a zirconium of green No. 3 and blue No. 1, barium, or an aluminium lake, Natural coloring matter, such as chlorophyll and beta carotene, squalane, a liquid paraffin, Vaseline, a micro crystallin wax, an OKEZO light, a ceresin, A myristic acid, a palmitic acid, stearin acid, oleic acid, isostearic acid, Cetyl alcohol, hexadecyl alcohol, oleyl alcohol, 2-ethylhexanoic acid cetyl, palmitic-acid 2-ethylhexyl, myristic-acid 2-octyldodecyl, G 2-ethylhexanoic acid neopentyl glycol, tree 2-ethylhexanoic acid glycerol, Oleic acid-2-octyldodecyl, myristic-acid isopropyl, Tori isostearic acid glycerol, Tori palm-oil-fatty-acid glycerol, olive oil, an avocado oil, yellow bees wax, Various hydrocarbons, such as myristic-acid Millis Chill, a mink oil, and lanolin, Silicon oil, a higher fatty acid, the ester of fats and oils, higher alcohol, Organic solvents, such as oily components, such as a low, an acetone, toluene, butyl acetate, and acetic ester, Plasticizers, such as resin, such as alkyd resin and a urea-resin, camphor, and acetyl tributyl citrate, an ultraviolet ray absorbent, an antioxidant, antiseptics, a surfactant, a moisturizer, perfume, water, alcohol, a thickener, etc. are mentioned.

[0029] Especially the gestalt of this charge of makeup is not limited, and has the shape of the shape of the shape of the shape of the shape of powder and a cake, and a pencil, and a stick, and ointment, a liquid, a milk liquid, and a cream etc.

[0030] In addition, this invention is the approach of manufacturing the glass flake equipped with the coat which consists of a rutile mold titania, by making noble metals, such

as platinum, adhere to - glass flake which can also be embodied as following operation gestalten, making the titania of an anatase adhere there, and heating at 600 degrees C or less.

EXAMPLE

[Example] Although an example and the example of a comparison are given to below and this invention is explained more to a detail, unless the summary of this invention is exceeded, it is not limited to the following examples. First, the pearly luster pigment which carried out the coat of the metallic oxide to the glass flake is explained.

[0032] (Example 1) - (example 4)

C glass (2:65 % of the weight of SiO(s), 2O3:4 % of the weight of aluminum, CaO:14 % of the weight, MgO:3 % of the weight, B-2O3:5 % of the weight, Na2O:8 % of the weight, K2O:1 % of the weight) was fused at 1,200 degrees C, it was made predetermined thickness by blowing to a cylindrical shape, extension-thin-film-izing, and carrying out cooling solidification, grinding classification of it was carried out, and the glass flake which has thickness, a predetermined grain size, and a predetermined aspect ratio was manufactured. By making this glass flake suspend in a sulfuric-acid titanyl solution, heating this suspension, and making it boil for 1 hour, made the glass flake front face carry out the coat of the titania of various thickness, and it was made to dry after filtration rinsing, it heat-treated for 30 minutes at 600 degrees C after that, and the glass flake equipped with the titania coat was obtained. All were anatases when the crystal system of a titania coat was investigated by the X diffraction.

[0033] Here, since coloring of a glass flake changes with thickness of a titania coat and specific surface area changes with the thickness and grain size of a glass flake, the conditions for obtaining the titania coat made into the purpose in each example cannot be determined uniquely. Therefore, the

glass flake was suitably sampled out of suspension in the formation phase of a titania coat, the addition of sulfuric-acid titanyl was adjusted, checking the amorous glance, and the glass flake of the color tone of arbitration was manufactured.

[0034] The glass flake which has the thickness, the grain size, and the aspect ratio of these versatility was packed into the cel with a diameter [of 60mm] x height of 10mm of a silica, and lightness (L value) was measured for it with the color color difference meter (CR300 by Minolta Co., Ltd.). Moreover, the diffuse reflection factor of 45 degrees / 0 degree was measured, and the glossmeter (VGS[by Nippon Denshoku Industries Co., Ltd.]-1001DP) estimated brightness. The result of the property of these glass flakes and brightness evaluation is shown in following "table 4."

[0035] (Example 1 of a comparison) - (example 3 of a comparison) -- about the mica equipped with the titania coat of a commercial anatase, and the thing which fabricated the titania coat of an anatase by the approach of the above-mentioned example to the glass flake (RCF-140 Nippon Sheet Glass Co., Ltd. make), lightness (L value) and the diffuse reflection factor of 45 degrees / 0 degree were measured, and the brightness was evaluated by the same approach as the above. The result is combined with following "table 4", and is shown. In addition, noble metals have not adhered to the glass flake of the example 3 of a comparison.

[0036] The glass flake of examples 1-4 has all high brightness (L value and diffuse reflection factor) compared with the mica of the examples 1 and 2 of a comparison, and it turns out that the bright high brightness which became clear very much is shown.

[0037]

[Table 4]

Brightness and glossiness of the glass flake equipped with the titania coat of an anatase, and a mica

---------- A example 1 2 3 4 Example 1 of a comparison 2 3 ---------- base material Glass Glass Glass Glass Mica Mica Glass Average

thickness (micrometer) 2.3 2.3 2.3 1.3 0.4 0.6 5.0 Mean particle diameter (micrometer) 450 80 40 25 40 80 140 Aspect ratio 196 35 17 19 100 113 28 Reflected color Silver Silver Silver Red Silver silver Silver Lightness (L value) 93 92 91 91 88 89 90 Diffuse reflection factor 66 62 61 63 52 54 60

[0038] (Example 5) - (example 8)

The glass flake of a predetermined configuration was manufactured like the above-mentioned examples 1-4. This glass flake was made to suspend in the titanium-tetrachloride solution which added chloroplatinic acid, and this suspension was heated, it boiled for 1 hour, and the titania coat of various thickness was prepared in the glass flake front face. This glass flake was dried after filtration rinsing, and it heat-treated for 30 minutes at 600 degrees C after that. All were rutile molds when the crystal system of a titania coat was investigated by the X diffraction. Since the platinum adhering to a glass flake acted as a catalyst which promotes the transition to a rutile mold, this is considered. Brightness was evaluated like the above-mentioned examples 1-4 about the glass flake which has the thickness, the grain size, and the aspect ratio of these versatility. The result is shown in following "table 5."

[0039] (Example 4 of a comparison) - (example 7 of a comparison) About the mica equipped with the titania coat of a commercial rutile mold, brightness was evaluated like the above. The result is shown in following "table 6."

[0040]

[Table 5]

Brightness and glossiness of a glass flake equipped with the titania coat of a rutile mold

---

A example 5 6 7 8

---

base material Glass Glass Glass Glass Average thickness (micrometer) 2.3 1.3 1.3 0.7 Mean particle diameter (micrometer) 300 80 80 25 Aspect ratio 130 62 62 36 Reflected color Silver Gold Red Blue Lightness 95 (L value) 94 93 92 Diffuse reflection factor 70 62 74 74

[0041]

[Table 6]

Brightness and glossiness of a mica equipped with the titania coat of a rutile mold ---------- The example of a comparison 4 5 6 7 ---------- base material Mica Mica Mica Mica Average thickness (micrometer) 0.4 0.4 0.4 0.6 Mean particle diameter (micrometer) 40 40 40 80 Aspect ratio 100 100 100 133 Reflected color Silver Gold Red Blue Lightness 91 (L value) 90 90 89 Diffuse reflection factor 50 60 65 63 ---------- [0042] The glass flake of examples 5-8 has brightness (L value and diffuse reflection factor) all higher than ""Table 5 and 6"" compared with the mica of the examples 4-7 of a comparison, and it turns out that the bright high brightness which became clear very much is shown.

[0043] The charge of makeup which blended next, a glass flake, i.e., a pearly luster pigment, equipped with the above-mentioned titania coat, is explained. Based on following "table 7", five steps of organic-functions evaluations by ten panelists performed evaluation of the charge of makeup.

[0044]

[Table 7]

The organic-functions evaluation about the charge of makeup ---------- evaluation ** item Mileage A feeling of adhesion Smoothness Brightness beauty of a color ---------- 1 [bad] There is nothing. There is nothing. There is nothing. [dirty] 2 It is a little bad. There is nothing a little. There is nothing a little. There is nothing not much. Are a little somber. 3 Usually Usually Usually It is a little. Usually 4 a little good -- it is a little It is a little. It is. Beautiful 5 Good It is very much. It is very much. Very high [very beautiful ---------- 0045] It is the average of five-step evaluation of ten panelists, and the result of organic-functions evaluation is expressed with the following notation in order to make the evaluation intelligible.

O ... [... Less than / or more 1.5 2.5 / x / ... Less than / 1.0 or more / 1.5 [0046]] It is O to 5.0 4.5 or more... Less

than [or more 3.5 4.5] - ... Less than [or more 2.5 3.5] ** : (Example 9) The powder foundation which consists of an ingredient shown in powder foundation following "table 8" was manufactured.

[0047]

[Table 8]

---------- (1) titanium oxide 7 (2) talc 20 (3) muscovites 3 The glass flake of the (4) example 2 55 (5) nylon powder 2 (6) red iron oxide 0.5 (7) Synthetic Ochre 1 (8) black iron oxide 0.1 (9) silicone oil 1(10) BAL MICHIN acid 2-ethylhexyl 9 (11) sorbitan sesquioleate 1 (12) antiseptics 0.3 (13) perfume 0.1 (% of the weight)

---------- [0048] The above-mentioned ingredient (1) Addition mixing of what mixed - (8) with the Henschel mixer, and this mixture was made to carry out the heating dissolution of above-mentioned ingredient (9) - (13), and was mixed was carried out, and the pulverizer ground this. Furthermore, press shaping of this was carried out by discharge and the pressure of 160kg/cm2 at the with a diameter of 5.3mm inside pan, and powder foundation was manufactured. The result of organic-functions evaluation of this charge of makeup is shown in following "table 9."

[0049] : (Example 8 of a comparison) The powder foundation above-mentioned ingredient (4) glass flake was permuted by the mica of the example 1 of a comparison, and powder foundation was manufactured for except [its] like the example 9. The result of organic-functions evaluation of this charge of makeup is shown in following "table 9."

[0050] : (Example 9 of a comparison) The powder foundation above-mentioned ingredient (4) glass flake was permuted by the glass flake of the example 3 of a comparison, and powder foundation was manufactured for except [its] like the example 9. The result of organic-functions evaluation of this charge of makeup is combined with following "table 9", and is shown.

[0051]

[Table 9]

---------- item Mileage feeling of adhesion Smoothness Brightness Beauty of a color ---------- example 9 ○ ○ ○ ○ ○ Example 8 of a comparison ○ ○ ○ ○ ○ Example 9 of a comparison - - ** ○ ○ ---------- [0052] Compared with the example 8 of a comparison, it is the beauty of brightness and a color, and, as for the charge of makeup of an example 9, "Table 9" shows excelling in mileage, a feeling of adhesion, and smoothness compared with the example 9 of a comparison.

[0053] : (Example 10) The brusher which consists of an ingredient shown in brusher following "table 10" was manufactured.

[0054]

[Table 10]

---------- (1) talc 12.6 (2) sericites 8.1 (3) micas 25.4 The glass flake of the (4) example 3 45.0 (5) red No. 226 0.4 (6) squalane 3.0 (7) palmitic-acid 2-ethylhexyl 5.0 (8) antiseptics 0.3 (9) perfume 0.2 (% of the weight)

---------- [0055] The above-mentioned ingredient (1) After spraying what mixed - (5) with the Henschel mixer, and this mixture was made to carry out the heating dissolution of above-mentioned ingredient (6) - (9), and was mixed and mixing, this was ground using the pulverizer. Furthermore, press shaping of this was carried out by discharge and 120kg/cm2 at the inside pan of 4x6cm, and the brusher was manufactured. The result of organic-functions evaluation of this charge of makeup is shown in following "table 11."

[0056] : (Example 10 of a comparison) The ingredient (4) glass flake of the brusher example 10 was permuted by the mica of the example 2 of a comparison, and the brusher was manufactured for except [its] like the example 10. The result of organic-functions evaluation of this charge of makeup is shown in following "table 11."

[0057] : (Example 11 of a comparison) The ingredient (4) glass flake of the brusher example 10 was permuted by the glass flake

of the example 3 of a comparison, and the brusher was manufactured for except [its] like the example 10. The result of organic-functions evaluation of this charge of makeup is combined with following "table 11", and is shown.

[0058]

[Table 11]

---------- A item Mileage feeling of adhesion Smoothness Brightness Beauty of a color ---------- example 10 O O O O O Example 10 of a comparison O O O O O Example 11 of a comparison - - ** O O ---------- [0059] Compared with the example 10 of a comparison, it is the beauty of brightness and a color, and, as for the charge of makeup of an example 10, "Table 11" shows excelling in mileage, a feeling of adhesion, smoothness, and brightness compared with the example 11 of a comparison.

[0060] : (Example 11) The nail enamel which consists of an ingredient shown in nail enamel following "table 12" was manufactured.

[0061]

[Table 12]

---------- (1) nitrocellulose 12 (2) conversion alkyd resin 12 (3) acetyl tributyl citrate 5 (4) n-butyl acetate 36.4 (5) ethyl acetate 6 (6) n-butyl alcohol 2 (7) toluene 21 (8) iron oxide pigments 0.5 (9) titanium dioxides 0.1 Glass flake of the (10) example 7 3 (11) micas 1 (12) organic conversion montmorillonite 1 (% of the weight) ---------- [0062] The above-mentioned ingredient (1) - (7) (in part [however, an ingredient (4)]) was dissolved, addition mixing of what mixed the remainder of an ingredient (12) and an ingredient (4) in this solution, and was made into gel was carried out, and addition mixing of ingredient (8) - (11) was carried out further. The predetermined container was filled up with this mixture and nail enamel was manufactured. The result of organic-functions evaluation of this charge of makeup is shown in following "table 13."

[0063] : (Example 12 of a comparison) The ingredient (10) glass flake of the nail enamel example 11 was permuted by the mica of the example 6 of a comparison, and nail enamel was manufactured like the example 11 except it. The result of organic-functions evaluation of this charge of makeup is shown in following "table 13."

[0064] : (Example 13 of a comparison) The ingredient (10) glass flake of the nail enamel example 11 was permuted by the glass flake of the example 3 of a comparison, and nail enamel was manufactured like the example 11 except it. The result of organic-functions evaluation of this charge of makeup is shown in following "table 13."

[0065]

[Table 13]

---------- A item Mileage feeling of adhesion Smoothness Brightness Beauty of a color ---------- example 11 O O O O O Example 12 of a comparison O O O O O Example 13 of a comparison - - ** O O ---------- [0066] Compared with the example 12 of a comparison, it is the beauty of smoothness, brightness, and a color, and, as for the charge of makeup of an example 11, "Table 13" shows excelling in mileage, a feeling of adhesion, smoothness, and brightness compared with the example 13 of a comparison.

[0067] : (Example 12) The emulsification foundation which consists of an ingredient shown in emulsification foundation following "table 14" was manufactured.

[0068]

[Table 14]

---------- (1) stearin acid 0.4 (2) isostearic acid 0.3 (3) 2-ethylhexanoic acid cetyl 4 (4) liquid paraffins 11 (5) polyoxyethylene (10) stearyl ether 2 (6) talc 8 (7) pigments 4 (8) cetyl alcohol 0.3 (9) antiseptics 0.07 The glass flake of the (10) example 6 10 (11) triethanolamines 0.42 (12) propylene glycol 5 (13) antiseptics 0.02 (14) ion exchange water 54.19 (15) perfume 0.3 (% of the weight)

---------- [0069] The above-mentioned ingredient (1) - (9) was dissolved at 85 degrees C, it mixed, the above-mentioned ingredient (10) was added to this, and homogeneity was distributed. Moreover, it added gradually and the mixture which was made to dissolve above-mentioned ingredient (11) - (14) in this at 85 degrees C, and was mixed was made to emulsify. After holding the temperature at the time of emulsification for 10 minutes and stirring it, it cooled to 45 degrees C, stirring. The ingredient (15) was added to this, stirring cooling was continued to 35 degrees C, the container was filled up with this after that, and emulsification foundation was obtained. The result of organic-functions evaluation of this charge of makeup is shown in following "table 15."

[0070] : (Example 14 of a comparison) The ingredient (10) glass flake of the emulsification foundation example 12 was permuted by the mica of the example 5 of a comparison, and emulsification foundation was manufactured for except [its] like the example 12. The result of organic-functions evaluation of this charge of makeup is shown in following "table 15."

[0071] : (Example 15 of a comparison) The ingredient (10) glass flake of the emulsification foundation example 12 was permuted by the glass flake of the example 3 of a comparison, and emulsification foundation was manufactured for except [its] like the example 12. The result of organic-functions evaluation of this charge of makeup is combined with following "table 15", and is shown.

[0072]

[Table 15]

---------- A item Mileage feeling of adhesion Smoothness Brightness Beauty of a color ---------- example 12 O O O O O Example 14 of a comparison O O O Example 15 of O ** comparison - - ** O O ---------- [0073] Compared with the example 14 of a comparison, it is the beauty of smoothness, brightness, and a color, and, as for the charge of makeup of

an example 12, "Table 15" shows excelling in mileage, a feeling of adhesion, smoothness, and brightness compared with the example 15 of a comparison.

[0074] : (Example 13) The lip stick which consists of an ingredient shown in lip stick following "table 16" was manufactured.

[0075]

[Table 16]

---------- (1) hydrocarbon wax 20 (2) candelilla wax 3 (3) glyceryl isostearate 40 (4) liquid paraffins 26.8 (5) titanium dioxides 4 Glass flake of the (6) example 7 4 (7) organic pigments 2 (8) perfume 0.2 (% of the weight)

---------- [0076] The above-mentioned ingredient (1) After having carried out the heating dissolution of - (4) at 85 degrees C, adding (5) - (7) to this and carrying out stirring mixing, mixed stirring of (8) was carried out further, the after that predetermined container was filled up, and the lip stick was obtained. The result of organic-functions evaluation of this charge of makeup is shown in following "table 17."

[0077] : (Example 16 of a comparison) The ingredient (6) glass flake of the lip stick example 13 was permuted by the mica of the example 6 of a comparison, and the lip stick was manufactured for except { its } like the example 13. The result of organic-functions evaluation of this charge of makeup is shown in following "table 17."

[0078] : (Example 17 of a comparison) The ingredient (6) glass flake of the lip stick example 13 was permuted by the glass flake of the example 3 of a comparison, and the lip stick was manufactured for except [its] like the example 13. The result of organic-functions evaluation of this charge of makeup is combined with following "table 17", and is shown.

[0079]

[Table 17]

---------- A item mileage Feeling of

adhesion Smoothness Brightness Beauty of a color
---------- example 13 O O O O O Example 16 of a comparison O O O O O Example 17 of a comparison - - ** O O ---------- [0080] "Table 17" shows that the charge of makeup of an example 13 is excellent in mileage, a feeling of adhesion, smoothness, and brightness compared with the beauty of smoothness, brightness, and a color, and the example 17 of a comparison compared with the example 16 of a comparison.

[0081] : (Example 14) The eye shadow which consists of an ingredient shown in eye-shadow following "table 18" was manufactured.

[0082]

[Table 18]

---------- (1) talc 21 (2) muscovites 20 The glass flake of the (3) example 8 40 (4) pigments 12 (5) squalane 4 (6) cetyl-2-ethylhexanoate 1.9 (7) sorbitansesquiolate 0.8 (8) antiseptics 0.1 (9) perfume 0.2 (% of the weight)

---------- [0083] The above-mentioned ingredient (1) It ground, after having mixed - (4) with the Henschel mixer, spraying what carried out heating mixing of (5) - (9) on this and mixing. This was breathed out to the predetermined inside pan and eye shadow was obtained. The result of organic-functions evaluation of this charge of makeup is shown in following "table 19."

[0084] : (Example 18 of a comparison) The ingredient (3) glass flake of the eye-shadow example 14 was permuted by the mica of the example 7 of a comparison, and eye shadow was manufactured for except [its] like the example 14. The result of organic-functions evaluation of this charge of makeup is shown in following "table 19."

[0085] : (Example 19 of a comparison) The ingredient (3) glass flake of the eye-shadow example 14 was permuted by the glass flake of the example 3 of a comparison, and eye shadow was manufactured for except [its] like the example 14. The result

of organic-functions evaluation of this charge of makeup is shown in following "table 19."

[0086]

[Table 19]

---------- A item mileage Feeling of adhesion Smoothness Brightness Beauty of a color ---------- example 14 O O O O O Example 18 of a comparison O O O Example 19 of O ** comparison - - ** O O ---------- [0087] Compared with the example 18 of a comparison, it is the beauty of mileage, a feeling of adhesion, smoothness, brightness, and a color, and, as for the charge of makeup of an example 14, "Table 19" shows excelling in mileage, a feeling of adhesion, smoothness, and brightness compared with the example 19 of a comparison.

EFFECT OF THE INVENTION

[Effect of the Invention] Since this invention is constituted as mentioned above, it does the following effectiveness so. According to the pearly luster pigment of invention according to claim 1, 0.1-2.5 micrometers in average thickness It is the mean particle diameter of 1-300 micrometers, and aspect ratios 10-500, and is a glass flake with the smooth front face where a base material contains a silica 45 to 75% of the weight. Furthermore, since a base material front face is the pearly luster pigment by which the coat was carried out with metallic oxides, such as titanium oxide, it is clear as a charge ingredient of makeup, very good brightness is discovered, there is no feeling of a rough deposit on the skin, and the cheap pearly luster pigment which is excellent in mileage and a feeling of a fit can be offered.

[0089] According to the pearly luster pigment of invention according to claim 2, since noble metals and a titania adhere on the surface of a base material in addition to the effect of the invention of claim 1, it is precise at heating of 600 degrees C or less, and the film of the rutile mold titania of a

stabilization mold is formed.

[0090] According to the charge of makeup of invention according to claim 3, since this pearly luster pigment is used as a charge ingredient of makeup, the mileage on the skin is well excellent in a feeling of a fit, and the beautiful charge of makeup of coloring which is excellent in the brightness which does not produce a feeling of a rough deposit can be offered.